TAMIL NADU ELECTRICITY REGULATORY COMMISSION

(Constituted under section 82 (1) of the Electricity Act, 2003)
(Central Act 36 of 2003)

PRESENT:-

Thiru S.Akshayakumar …. Chairman

and

Thiru.G.Rajagopal …. Member

M.P.No.36 of 2014

Tamil Nadu Newsprint and Papers Limited,
67, Mount Road,
Guindy,
Chennai – 600 032.

… Petitioner

Vs.

Nil …. Respondent

Dates of hearing : 29-12-2014 and 20-04-2015

Date of order : 28-01-2016

The M.P.No.36 of 2014 filed by Tamil Nadu Newsprint and Papers Limited (TNPL) came up for final hearing on 20-04-2015. The Commission upon perusing the above petition and the connected records and after hearing the submissions of the Petitioner and the submissions of the State Load Despatch Centre (SLDC) made on the direction of the Commission passes the following order:-

ORDER

1 Prayer of the Petitioner in M.P.No.36 of 2014:-

The Prayer of the Petitioner in M.P.No.36 of 2014 is to declare that the Petitioner's captive power plant comprised of steam powered turbo generator TG 6 as being cogeneration plant under the provisions of the Electricity Act, 2003 and consequently declare that the said captive cogeneration plant is not required to

procure power from Non-Conventional Energy Sources in terms of the judgment of the Hon'ble APTEL in Appeal No.57 of 2009, *Century Rayon Vs. MERC* and the Petitioner would be entitled to account for consumption of power generated from its 41 MW Cogeneration plant at Kagithapuram, Tamil Nadu towards Renewable Purchase Obligation under the Tamil Nadu Electricity Regulatory Commission (Renewable Energy Purchase Obligation) Regulations, 2010.

2. Contentions of the Petitioner:-

2.1. The Petitioner was promoted by Government of Tamil Nadu and was incorporated in April 1979 as a Public Limited Company under the provisions of the Companies Act, 1956 for manufacture of Newsprint and Printing and Writing Paper using Bagasse.

2.2. The Petitioner's production process is among the most environmental friendly paper manufacturing processes in the world. The company makes paper using as little wood as possible to save forest and primarily uses sugarcane waste, namely, Bagasse, a renewable raw material which consumes less chemical for pulping and bleaching, resulting in minimal impact on the environment. Bagasse is a refuse material from sugar cane after extraction of sugar cane juice for sugar making.

2.3. The Petitioner is a continuous process industry having a large integrated pulp and paper mill. The Petitioner's manufacturing plant consists of various component units such as Pulp Mill, Soda Recovery Plant and Paper Machines. The component units require heat energy which is provided by low pressure to medium pressure steam. The Petitioner has 6 boilers and recovery boiler which are fired using various

fuel sources including fossil fuels such as coal, oil, agro based products and pith. The recovery boiler is fired using black liquor. Black liquor is a waste product that is produced during the manufacture of pulp from bagasse. The special feature of the boilers is that various fuels such as Coal, Pith, Coke, Lignite and Oil can be fired in any combination.

2.4. The details of boilers and recovery boilers are as below:-

Boiler No.	Capacity	Pressure	Year of Installation	Type of Fuel used	Make
Boiler No.1	60 TPH	44 Kg/ cm²	1984	Coal, Lignite, agro fuels and Pith	Fivescail Babcock
Boiler No.2	60 TPH	44 Kg/ cm²	1984	Coal, Lignite, agro fuels and Pith	Fivescail Babcock
Boiler No.3	60 TPH	44 Kg/ cm²	1984	Coal, Lignite, agro fuels and Pith	Fivescail Babcock
Boiler No.4	60 TPH	44 Kg/ cm²	1995	Coal, Lignite, agro fuels and Pith	BHEL
Boiler No.5	90 TPH	64 Kg/ cm²	2001	Coal, Lignite, agro fuels and Pith	Cethar Vessels
Boiler No.6	125 TPH	105 Kg/ cm²	2010	Coal, Lignite, agro fuels and Pith	Enmas Andritz
Recovery Boiler No.3	197.7 TPH	64 Kg/ cm²	2007	Black Liquor	Enmas Andritz
Boiler No.7	125 TPH	105Kg/ cm²	2013	Coal, Lignite, agro fuels and Pith	Cethar Vessels

2.5. The boilers are operated at optimum capacity which produces steam at a very high pressure of 105 / 64 / 44 Kg/ cm² and at 525 / 483 / 440°C. However, the steam required for the manufacturing process is of lesser grade, viz., medium and low pressure steam. Therefore, the Petitioner uses the high pressure steam to power turbines and in the process the steam drops in pressure level and the resultant low pressure steam is used for the manufacturing process. The Petitioner's manufacturing process is fit for certification as "cogeneration plant" as electricity and heat energy is produced simultaneously. The Petitioner has installed 6 turbo

generators of varying capacities which are powered using the steam produced in the manufacturing process. The details of the production capacity of the generators are as follows:-

Turbo Generator No.	Capacity	Voltage	Make	Type of Turbine	Type of Generation	Year of Installation
T.G. No.1	8 MW	11 KV	Siemens AG, West Germany	MP Steam Extraction-cum-Back pressure (LP Steam)	Fossil Fuel based co-generation	1985
T.G.No.2	18 MW	11 KV	Siemens AG, West Germany	LP Steam Extraction-cum-Condensing	-do -	1985
T.G.No.3	10.50 MW	11 KV	BHEL	Double Extraction (MP & LP)-cum-Condensing	-do -	1995
T.G.No.4	24.62 MW	11 KV	BHEL	LP Steam Extraction-cum-Condensing	-do -	2001
T.G.No.5	20 MW	11 KV	BHEL	MP Steam Extraction-cum-Back pressure (LP Steam)	Renewable Energy based cogeneration (Black Liquor)	2007
T.G.No.6	41 MW	11 KV	BHEL	Double Extraction(MP & LP)-cum-Condensing	- do -	2013

2.6. Section 2 (12) of the Electricity Act, 2003 defines “co-generation” as a process which simultaneously produces two or more forms of useful energy including electricity. The process adopted by the Petitioner would qualify as co-generation as it produces steam energy which is required in the paper manufacturing process and electricity, simultaneously.

2.7. The heat energy generated by the medium pressure steam and low pressure steam is sufficient for the manufacturing activities of the Petitioner. However, running the six turbo generators so as to generate medium and low pressure steam alone would amount to inefficient usage of the raw material, and also amount to operating the turbo generators at level much below their installed capacity. Therefore, the Petitioner has developed a system whereby the turbo generators are operated at the installed capacity and the high pressure steam is used for powering turbines and used to produce electrical energy, whereas the medium pressure and low pressure steam is simultaneously used to provide the necessary heat energy for the manufacturing activities of the Petitioner in its chemical production plant. By adopting the above technology, the Petitioner has enabled a system whereby the turbo generators are operated to produce two forms of energy, including electricity simultaneously.

2.8. The Petitioner has converted one of the existing Turbo Generators i.e. T.G.No.5, into a Renewable Energy based Power Plant, as the steam used for powering TG 5 is sourced from the Recovery Boiler No.3 which uses Black Liquor as fuel. Black Liquor is an industrial waste containing biomass, and the power generated using the steam generated from Recovery Boiler has been recognized as a renewable source of energy. The benefit of Renewable Energy Certificates for the self-consumption of power generated from TG 5 is being availed by the Petitioner from 16-01-2012. The Petitioner submits that it has got registered the Recovery Boiler and TG 5 as Renewable Energy Power Plant with the National Load Despatch Centre, New Delhi.

2.9. The Electricity Act, 2003 (hereinafter referred to as the "Act") also casts a duty on the State to promote generation of electricity from cogeneration and renewable sources. In this light, section 86(1) (e) of the Act casts a specific obligation on the State Electricity Regulatory Commissions (SERCs) set up under the Act to promote generation of electricity from cogeneration and renewable sources of energy. Additionally, to ensure the usage of electricity generated from cogeneration and renewable energy sources and to increase the share of cogeneration and renewable energy, the SERCs are also required to set out regulations that make it necessary for distribution companies to purchase certain percentage of their total power requirement from such sources. This target is termed as Renewable Purchase Obligation (RPO).

2.10. The Renewable Energy Purchase Obligation Regulations of the Commission dated 07-12-2010 govern the framework under which specified obligated entities purchase renewable energy as per quantum specified by the Commission. These regulations also provide the framework under which units that produce electricity using renewable sources of energy can receive accreditation.

2.11. A question arose before the APTEL whether a cogeneration plant would be required to comply with RPO Obligations and the above issue came to be finally determined by the APTEL in its order dated 26-04-2010 in Appeal No.57 of 2009, Century Rayon Vs. MERC wherein it was held as follows:-

"45. Summary of our conclusions is given below:-

(I) The plain reading of section 86 (1) (e) does not show that the expression "co-generation" means cogeneration from renewable sources alone. The meaning of the term "co-generation" has to be understood as defined in definition section 2 (12) of the Act.

(II) As per section 86 (1) (e), there are two categories of generators namely (1) co-generators (2) Generators of electricity through renewable sources of energy. It is clear from this section that both these categories must be promoted by the State Commission by directing the distribution licensees to purchase electricity from both of these categories.

(III) The fastening of the obligation on the co-generator to procure electricity from renewable energy procures would defeat the object of section 86 (1) (e).

(IV) The clear meaning of the words contained in Section 86 (1) (e) is that both are different and both are required to be promoted and as such the fastening of liability on one in preference to the other is totally contrary to the legislative interest.

(V) Under the scheme of the Act, both renewable source of energy and cogeneration power plant, are equally entitled to be promoted by State Commission through the suitable methods and suitable directions, in view of the fact that cogeneration plants, who provide many number of benefits to environment as well as to the public at large, are to be entitled to be treated at par with the other renewable energy sources.

(VI) The intention of the legislature is to clearly promote cogeneration in this industry generally irrespective of the nature of the fuel used for such cogeneration and not cogeneration or generation from renewable energy sources alone."

x x x

"46. x x x While concluding, we must make it clear that the Appeal being generic in nature, our conclusions in this Appeal will be equally applicable to all co-generation based captive consumers who may be using any fuel. We order accordingly."

2.12. By virtue of the binding judgment of the APTEL in the Century Rayon case, captive consumers having cogenerating plants cannot be fastened with the obligation to procure electricity from renewable energy sources as that would defeat the object of section 86 (1) (e) and cogenerating plants have to be treated on par with renewable energy generating plants. The power generated and captively used from the Petitioner's plant should be treated on par with procurement of power from renewable sources for the purposes of complying with RPO Obligations.

2.13. In the State of Tamil Nadu, the amended definition of obligated entities includes Captive Consumers while providing for renewable power wheeled and

actually consumed from their own renewable energy sources allowed to be accounted for RPO purpose. "Renewable Sources" has been defined in Clause 2 (g) of the Tamil Nadu Electricity Regulatory Commission Power Procurement from New and Renewable Sources of Energy Regulations, 2008 wherein it defined as:

> *"New and renewable sources" means the non-conventional, renewable electricity generating sources such as mini/ micro hydel, wind, solar, biomass, bagasse based cogeneration, urban/municipal waste, or other such sources as approved by the Government of India or Government of Tamil Nadu (or Commission) which are generally inexhaustible and can be replenished in a short period of time.*"

2.14. APTEL while interpreting RPO Obligated entities has specifically held that cogeneration and non-conventional energy sources have to be treated on par since they are both contained in section 86 (1) (e) of the Act. In view of the TNERC (RPO) Regulations not being sufficiently clear and having appropriately taken into account the judgment of the APTEL, a definite ruling in this regard would clarify the issue.

2.15. Regulation 8 of the TNERC (RPO) Regulations provides as follows:

> *"8. Power to remove difficulties.- (1) The Commission shall suo-motu or on an application from any person generating electricity from renewable sources or an entity mandated under clause (e) of sub-section (1) of section 86 of the Act to fulfil the renewable purchase obligation may review, add, amend or alter these regulations and pass appropriate orders to remove any difficulty in exercising the provisions of these regulations."*

2.16. The Commission has recently ruled in DCW Ltd.'s case in M.P.No.31 of 2011 that-

"4.8. The Commission observes that the Order of the APTEL as discussed above is subsequent to the issue of the Regulation by this Commission in 2008. From the above judgment it is observed that under the scheme of the Act, both renewable source of energy and cogeneration power plant, are equally entitled to be promoted by State Commission through suitable methods and suitable directions, in view of the fact that cogeneration plants, which provide many number of benefits to environment as well as to the public at large, are to be entitled to be treated at par with other renewable energy sources. Further, it is observed from the above

judgment that the intention of the legislature is to clearly promote cogeneration in this industry generally irrespective of the nature of the fuel used for such cogeneration. It is also observed from the above judgment that the fastening of the obligation on the co-generator to procure electricity from renewable energy sources would defeat the object of section 86(1)(e). Since the above judgment is generic in nature, the Commission clarifies that the 2 x 25 MW cogeneration plant of the petitioner at Sahupuram, Tamil Nadu, being a cogeneration plant, would be treated similar to a renewable energy generator. Consequently, the consumer who consumes the energy generated by this co-generation plant would be eligible for accounting the same for RPO subject to all other provisions of the RPO Regulations, 2010."

2.17. APTEL in the recent judgment in Appeal No.53 of 2012 in the case of Lloyd Metal & Energy Ltd. Vs. MERC dated 02-12-2013 wherein the judgment of Century Rayon was referred to a larger bench to consider the issue whether Cogen power ought to be made a part of RPO for purchase by the Distribution Licensee, while answering the said reference in the negative, APTEL noted with approval in paragraph 37 that under the MERC Regulations " .....However the captive users consuming power from grid connected fossil fuel based cogeneration plants have been exempted from applicability of Renewable Purchase Obligation target." An identical exemption is sought for in the present case.

2.18. The Petitioner has already filed a petition (M.P.No.24 of 2012) before the Commission praying to declare that the Petitioner's captive power plants comprised of steam powered turbo generators TG1, TG2, TG3 and TG4 as being cogeneration plants under the provisions of the Electricity Act, 2003 praying to declare that the said captive cogeneration plant is not required to procure power from Non-Conventional Energy Sources and the Petitioner would also be entitled to account for consumption of power generated from its TG6, 41 MW Cogeneration plant at Kagithapuram, Tamil Nadu towards Renewable Purchase Obligation under

the Tamil Nadu Electricity Regulatory Commission (Renewable Energy Purchase Obligations) Regulations, 2010 and the same has been reserved for judgment.

3. The views of the State Load Despatch Centre on the Petition filed by the Petitioner:-

3.1. The RPO for the year 2011-12 to the following "Obligated Entity" as per the provisions of section 86 (1) (e) of the Electricity Act, 2003 was issued by the Commission.

a) Distribution Licensees;
b) Consumers owning grid connected Captive Generating Plants (CGPs); and
c) Open Access consumers in the State of Tamil Nadu.

With an obligatory quantum of 9% for non-solar and 0.05% for solar for the year 2011-12 and if the RPO for any year is not specified, the previous year shall be continued beyond the period till any revision is effected by the Commission in this regard.

3.2. There are many cases pending before the High Court of Madras filed against the RPO regulations filed by various CGPs and Open Access Consumers in the above list of obligated entities (b) & (c).

3.3. The generator details being operated by the Petitioner installed at Kagithapuram, Karur, Trichy District is furnished below:-

TG1:8 MW; TG2:18 MW; TG3:10.5 MW; TG4:24.62 MW; TG5:20 MW; TG6:41 MW.

3.4. The connectivity approval to the above Petitioner for the above 41 MW Generator TG6 has been accorded by operation wing, TANTRANSCO vide Lr.No.DIR/O/SE/LD&GO/EE/OA/ AEE1/F/TNPL/D853/13, dated 17-05-2013 as captive Generator for power evacuation of 10 MW after captive consumption in 110 SC line of 230/110 KV Pugalur SS and further approval accorded for enhancement of power evacuation from 10 MW to 20 MW vide letter dated 22-12-2014.

3.5. The STOA approval for the above Petitioner for supply of 7 MW & 10 MW to TANGEDCO from their total capacity of 103.62 MW vide Lr.No.CE/O/SE/LD&GO/ EE/OA/AEE/OA/F TANGEDCO STOA/D 1323/14, dated 09-10-2014 and vide Lr.No.SE/LD&GO/ EE/OA/AEE/OA/F TANGEDCO STOA/D36/15, dated 13-01-2015 respectively by mentioning the Petitioner's power plant as "Coal based power plant of 103.62 MW at Kagithapuram".

3.6. The Petitioner is already availing benefits of Renewable Energy Certificate mechanism for their self-consumption from the generated energy from their 18 MW TG-5 Generator from 16-01-2012. The NLDC Registration for the same is TNONSTNPLA001R160112 dated 16-01-2012 and the SLDC is certifying the Energy Injection Report for the above self-consumption and sent to NLDC every month.

3.7. There is no provision in the RPO Regulations for accounting the energy consumed from the generated energy of a cogeneration plant for RPO compliance.

3.8. It is the discretion of the Commission whether to approve the prayer of the Petitioner in M.P.No.24 of 2012 which is pending and M.P.No.36 of 2014 to be listed

before the Commission and the SLDC will act accordingly as directed by the Commission in its RPO Regulations and as per the orders for the above cases.

4. Findings of the Commission:-

4.1. The prayer of the petitioner is to declare that the petitioner's captive power plant comprised of steam powered turbo generator TG 6 as being cogeneration plant under the provisions of the Electricity Act, 2003, and consequently declare that the said captive cogeneration plant is not required to procure power from Non-Conventional Energy Sources in terms of the judgment of the Hon'ble APTEL in Appeal No.57 of 2009, *Century Rayon Vs. MERC and the petitioner would be entitled* to account for consumption of power generated from its 41 MW Cogeneration plant at Kagithapuram, Tamil Nadu towards Renewable Purchase Obligations under the TNERC (Renewable Energy Purchase Obligations) Regulations, 2010.

4.2. The petitioner in the petition submits that the petitioner has six boilers and a recovery boiler which are fired using various fuel sources including fossil fuels such as coal, oil, agro based products and pith. The recovery boiler is fired using black liquor which is a waste product that is produced during the manufacture of pulp from bagasse. The petitioner submits that the special feature of the boilers is that various fuels such as coal, pith, coke lignite and oil can be fired in any combination. The petitioner also submits that it has installed six turbo generators of varying capacities which are powered using the steam produced in the manufacturing process.

4.3. The Petitioner had earlier filed a petition (M.P.No.24 of 2012) before this Commission (TNERC)to declare that the Petitioner's captive power plant comprised of steam powered turbo generators TG1, TG2, TG3 and TG4 as being cogeneration plants under the provisions of the Electricity Act, 2003 and consequently declare that the said captive generator is not required to procure power from Non-Conventional Energy Sources in terms of the judgment of the Hon'ble APTEL in Appeal No.57 of 2009, Century Rayon Vs. MERC and the Petitioner would be entitled to account for consumption of power generated from 61.12 MW cogeneration plant comprised of TG1, TG2, TG3 and TG4 situated at Kagithapuram, Tamil Nadu towards Renewable Purchase Obligation under the TNERC (Renewable Energy Purchase Obligations) Regulations, 2010.

4.4. The Commission after detailed analysis of the issue in the light of various legal provisions, orders of Hon'ble APTEL and provisions in the Regulations of TamilNadu Electricity Regulatory Commission viz. Renewable Energy Purchase Obligations Regulations 2010 and New and Renewable Energy Regulations 2008 issued order in the said M.P.No.24 of 2012 dated 13.11.2015 which is reproduced below:-

> *"4.8 Since the petitioner's co-generation plant is not satisfying the eligibility criteria for the purpose of accounting the energy generated therefrom for RPO as per the APTEL's order on Appeal No: 53 of 2012 dated 02-12-2013 and the Commission's Renewable Energy Purchase Obligation Regulations, 2010, we declare that the power generated from the petitioner's co-generation Power Plant is not entitled to account for RPO. In view of the above findings the orders dated 15-09-2014 made in M.P.No.25 of 2012 does not warrant a review and R.P.No.1 of 2014 in R.P.No.25 of 2012 fails. Accordingly the R.P.No.1 of 2014 along with I.A.No.1 of 2014 in the said R.P are dismissed.*
>
> *4.9 The Commission issued the said Order based on the APTEL's Order dated 02-12-2013 on Appeal No.53 of 2012 and in consonance with the Tamil Nadu Electricity Regulatory Commission (Renewable Purchase*

Obligation) Regulation 2010. In this case, the petitioner himself has declared that the generators in question are Fossil Fuel Based Co-generators. Therefore the Commission orders that the electricity generated from the petitioner's generators TG1, TG2, TG3, TG4, totaling 61.12 MW is not eligible for accounting for Renewable Purchase Obligation (RPO) under the Tamil Nadu Electricity Regulatory Commission (Renewable Purchase Obligation) Regulation 2010."

4.5. Further, the Petitioner in the present Petition M.P.No.36 of 2014 has stated that the existing Turbo Generators i.e. TG No.5 has been converted into a Renewable Energy based Power Plant, as the steam used for powering TG 5 is sourced from the Recovery Boiler No.3 which uses black liquor which is an industrial waste containing biomass as fuel. The power generated using the steam generated from recovery boiler has been recognized as a renewable source of energy. The benefit of Renewable Energy Certificates for the self-consumption of power generated from TG 5 is being availed by the Petitioner from 16-01-2012. The Petitioner has got registered the recovery boiler and TG 5 as Renewable Energy Power Plant with the National Load Despatch Centre, New Delhi.

4.6. Under the light of the above, this Petition is to declare the Petitioner's Captive Power Plant comprised of steam powered Turbo Generator TG6 as being co-generation plant under the provisions of the Electricity Act, 2003 and consequently declare that the said Captive Co-generation is not required to procure power from Non-Conventional Energy Sources and to account for consumption of power generated from its 41 MW co-gen plant towards RPO.

4.7. As per Regulation 2(1) of Renewable Energy Purchase Obligations Regulations 2010 and Regulation 2 (1) (g) of New and Renewable Energy Sources

Regulations 2008 for the purpose of accounting for RPO, the source of power generation shall be Non-Conventional and Renewable Energy Sources.

4.8. The SLDC in its affidavit has stated as follows:

> *"It is also submitted that STOA approval for the above petitioner M/s. Tamil Nadu News Print and Papers Limited, Chennai-32 for supply of 7 MW & 10 MW to TANGEDCO from their total capacity of 103.62 MW vide Lr. No. CE/O/SE/LD&GO/EE/OA/AEE/OA/F TANGEDCO STOA / D 1323/14, dt.9.10.2014 and vide Lr.No. SE/LD&GO/EE/OA/AEE/OA/F TANGEDCO STOA /D 36/15, dt.13.1.2015 respectively by mentioning the Petitioner's Power Plant as* ***Coal based power plant of 103.62 MW at Kagithapuram"***

4.9. Based on State Load Despatch Centre's report and as per the details of boiler furnished by the petitioner that all boilers, except recovery boiler which is used for powering TG 5, do not use fuel which is primarily renewable, the power generated from the petitioner's 41 MW cogeneration plant TG 6 is not eligible for accounting for RPO under TNERC's Renewable Energy Purchase Obligations Regulations, 2010.

4.10. The Commission issues this order in consonance with the TNERC Renewable Energy Purchase Obligations Regulations, 2010.

5. Appeal:-

An appeal against this order shall lie before the Appellate Tribunal for Electricity under section 111 of the Electricity Act, 2003 within a period of 45 days from the date of receipt of a copy of this order by the aggrieved person.

(Sd…….)	(Sd…….)
(**G.Rajagopal)**	**(S.Akshayakumar)**
Member	**Chairman**

/ True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission